PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

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PCT

INVITATION TO PAY ADDITIONAL FEES

(PCT Article 17(3)(a) and Rule 40.1)

Date of Mailing *(day/month/year)* 29 MAR 2002	
Applicant's or agent's file reference 210121.45503	PAYMENT DUE within 15 days from the above date of mailing
International application No. PCT/US01/47576	International filing date *(day/month/year)* 30 NOVEMBER 2001
Applicant CORIXA CORPORATION	

1. This International Searching Authority

(i) considers that there are 8 *(number of)* inventions claimed in the international application covered by the claims indicated below/on an extra sheet:
Please See Extra Sheet.

and it considers that **the international application does not comply with the requirements of unity of invention** (Rules 13.1, 13.2 and 13.3) for the reasons indicated below/on an extra sheet:

Please See Extra Sheet.

(ii) ☐ has carried out a partial international search (see Annex) ☒ will establish the international search report on those parts of the international application which relate to the invention first mentioned in claims Nos.:
1-7

(iii) will establish the international search report on the other parts of the international application only if, and to the extent to which, additional fees are paid.

2. The applicant is hereby **invited**, within the time limit indicated above, to pay the amount indicated below:

$ 210.00	X	7	=	$ 1470.00
Fee additional per invention		number of additional inventions		total amount of additional fees

The applicant is informed that, according to Rule 40.2(c), **the payment of any additional fee may be made under protest**, i.e., a reasoned statement to the effect that the international application complies with the requirement of unity of invention or that the amount of the required additional fee is excessive.

3. ☐ Claim(s) Nos. _____ have been found to be unsearchable under Article 17(2)(b) because of defects under Article 17(2)(a) and therefore have not been included with any invention.

Name and mailing address of the ISA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer SHIN-LIN CHEN
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Form PCT/ISA/206 (July 1992)★

1. This International Search Authority has found 8 inventions claimed in the International Application covered by the claims indicated below:

This application contains the following inventions or groups of inventions which are not so linked as to form a single inventive concept under PCT Rule 13.1. In order for all inventions to be searched, the appropriate additional search fees must be paid.

Group I, claim(s)1-7, drawn to a method for inducing an immune response in an animal by providing a composition comprising a polynucleotide encoding at least an immunogenic portion of a lung carcinoma, wherein the polynucleotide has at least 90% identity to SEQ ID No. 347.
Group II, claim(s) 8, 10, 11 and 19-21, drawn to an isolated polynucleotide comprising a sequence selected from the group consisting of (a) sequence of SEQ ID No. 358, or 368 etc., (b) complements of the sequences of (a), (c) sequence consisting of at least 10 contiguous nucleotides of the sequence of (a).(d) sequence that hybridizes to the sequences of (a), (e) sequence that is at least 75% identical to sequences of (a), (f) sequence that is at least 90% identical to sequences of (a), (g) degenerate variants of the sequence of (a), an expression vector comprising said polynucleotide, a host cell transformed with said expression vector, a composition comprising said polynucleotide, a method for stimulating an immune response in a patient by using said composition, and a method for treating a lung cancer in a patient by using said composition.
Group III, claim(s) 9, 14, 15 and 19-21, drawn to an isolated polypeptide comprising an amino acid sequence encoded by the polynucleotide sequence set forth above, a fusion protein comprising at least one polypeptide according to claim 9, a composition comprising said polypeptide, a method for stimulating an immune response in a patient by using said composition, and a method for treating a lung cancer in a patient by using said composition.
Group IV, claim(s)12, 13, 19-21 and 24, drawn to an isolated antibody or antigen-binding fragment thereof that specifically binds to the polypeptide of claim 9, a method for detecting the presence of a cancer in a patient by using a binding agent, such as an antibody, a composition comprising said antibody, a method for stimulating an immune response in a patient by using said composition, a method for treating a lung cancer in a patient by using said composition, and a kit comprising at least one antibody of claim 12 and a detection reagent.
Group V, claim(s) 16, 22 and 23, drawn to an oligonucleotide that hybridizes to a sequence as cited in claim 16 under highly stringent conditions, a method for detecting the presence of a cancer in a patient by using said oligonucleotide, and a diagnostic comprising at least one oligonucleotide of claim 16.
Group VI, claim(s) 17-21 and 25, drawn to a method for stimulating and/or expanding T cells specific for a tumor protein by contacting T cells with polynucleotide of claim 8, an isolated T cell population prepared by said method, a composition comprising said T cell population, a method for stimulating an immune response or treating a lung cancer in a patient by using said composition, and a method for treating lung cancer in a patient by incubating CD4+ and/or CD8+ T cells with said polynucleotide and administering effective amount of the proliferated T cells to a patient.
Group VII, claim(s) 17-21 and 25, drawn to a method for stimulating and/or expanding T cells specific for a tumor protein by contacting T cells with the polypeptide of claim 9, an isolated T cell population prepared by said method, a composition comprising said T cell population, a method for stimulating an immune response or treating a lung cancer in a patient by using said composition, and a method for treating lung cancer in a patient by incubating CD4+ and/or CD8+ T cells with said polynucleotide and administering effective amount of the proliferated T cells to a patient.
Group VIII, claim(s) 17-21 and 25, drawn to a method for stimulating and/or expanding T cells specific for a tumor protein by contacting T cells with antigen presenting cells expressing polynucleotide of claim 8, an isolated T cell population prepared by said method, a composition comprising said T cell population, a method for stimulating an immune response or treating a lung cancer in a patient by using said composition, and a method for treating lung cancer in a patient by incubating CD4+ and/or CD8+ T cells with said polynucleotide and administering effective amount of the proliferated T cells to a patient.

and it considers that the International Application does not comply with the requirements of unity of invention (Rules 13.1, 13.2 and 13.3) for the reasons indicated below:

The inventions listed as Groups I-VIII do not relate to a single inventive concept under PCT Rule 13.1 because, under PCT Rule 13.2, they lack the same or corresponding special technical features for the following reasons: Group I is related to SEQ ID No. 347 which is not cited in groups II-VIII, the different SEQ ID Nos recited in groups I and groups II-VIII are different genes encoding different gene products. Therefore, group I and groups II-VIII do not share common special technical feature. Gruber et al., 1999 (GenEmbl Accession No. AF043977, teaches a human calcium-activated chloride channel-2 mRNA sequence, GenEmbl Accession No. AF043977, that is 98.6% identical to SEQ ID No. 358. Guo et al., 1999 (GenEmbl Accession No. U85946, teaches a human brain secretory protein hSec10p mRNA sequence, GenEmbl Accession No. U85946, that is 100% identical to the sequence of SEQ ID No. 368. Further,

Reed et al., 1999 (Geneseq Accession No. AAZ24653) teaches a human lung tumor associated polynucleotide sequence, Geneseq Accession No. AAZ24653, that is 98.8% identical to the sequence of SEQ ID No. 358. Thus, no special technical feature has been contributed over the prior art by the present inventions. Further, a polynucleotide, a polypeptide, an antibody, an oligonucleotide, and a T cell population are different products having different chemical structures, physical properties and biological functions. The methods of using a polynucleotide, a polypeptide, an antibody, or a T cell population to stimulate an immune response and to treat a lung cancer in a patient are different from each other in method processes, reagents and doses used, schedules used, and responsive variables. Further, methods of detecting lung cancer by using an oligonucleotide or an antibody also differ in method processes, reagents and doses used, schedules used, and responsive variables. Therefore, Groups I-VIII do not relate to a single inventive concept under PCT Rule 13.1.